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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
IQBAL, KHAWAR	

ART UNIT	PAPER NUMBER
2686	

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/733,990	HAN ET AL.	
	Examiner	Art Unit	
	Khawar Iqbal	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-30 are rejected under 35 U.S.C. 102(e) as being unpatentable by Kim et al (20020141349).

3. Regarding **claim 1** Kim et al teaches in a mobile communication system, a method of setting a reverse activity bit, the method comprising (figs. 2-10):

measuring a rise over-thermal noise-measured representing a load degree of a reverse link (para. 0071-0073, 0119-0129); comparing the ROTm with a setup reference value (ROTm_th) (para. 0071-0073, 0119-0129); setting the RAB to lower data rate of a terminal, when the ROTm is greater than the ROTm_th (para. 0071-0073, 0119-0129); enabling a base station to receive and monitor a variation state of the ROTm, when the ROTm is less than the ROTm_th (para. 0071-0073, 0119-0129); and setting the RAB to control the data rate according to the variation state of the ROTm (para. 0071-0073, 0119-0129).

Regarding **claim 2** Kim et al teaches dividing the ROTm into at least two states according to the variation state of the ROTm; and setting the RAB to lower the data rate according to one of the at least two states (para. 0071-0073, 0119-0129).

Regarding **claim 3** Kim et al teaches setting the RAB according to a transition degree of the state of the ROTm (para. 0071-0073, 0119-0129).

Regarding **claim 4** Kim et al teaches resetting the RAB, when the state of the ROTm is changed after the RAB is set, based on formula: RAB set time=RABSetTimeBystate+RABSetTimeByStateTrans, wherein RABSetTimeBystate is a RAB set time corresponding to the state of the ROTm, and RABSetTimeByStateTrans is a RAB set time corresponding to the transition degree of the state of the ROTm (para. 0071-0073, 0119-0129).

Regarding **claim 5** Kim et al teaches updating the RAB set time when the ROTm varies (para. 0071-0073, 0119-0129).

Regarding **claim 6** Kim et al teaches setting the RAB according to a ROTc value calculated based on the load degree of the reverse link and the RAB set time (para. 0071-0073, 0119-0129).

Regarding **claim 7** Kim et al teaches setting the RAB to lower the data rate regardless of the ROTc value, when the RAB set time is greater than a first threshold.

Regarding **claim 8** Kim et al teaches comparing the ROTc to a ROTc_th threshold for the load degree of the reverse link, when the RAB set time is equal to the first threshold; setting the RAB to lower the data rate, when the ROTc is greater than

the ROTc_th threshold; and setting the RAB to raise the data rate, when the ROTc is smaller than the ROTc_th threshold (para. 0071-0073, 0119-0129).

Regarding **claim 9** Kim et al teaches setting the RAB to lower transmission data rate of the terminal for a predetermined slot length, when an increment rate of the ROTm calculated according to a variation rate depending on time the ROTm exceeds a previously set upward reference value (ROT_Up) (para. 0071-0073, 0119-0129); and maintaining the RAB to raise the transmission data rate, when the increment ratio of the variation rate of the ROTm fails to exceed the upward reference value (ROT_Up) (para. 0071-0073, 0119-0129).

Regarding **claim 10** Kim et al teaches maintaining the RAB to lower the data rate in case of the ROTm exceeding the reference value (ROTm_th) until the ROTm drops below the upward reference value (ROT_Up) (para. 0071-0073, 0119-0129).

Regarding **claim 11** Kim et al teaches generating the RAB to raise the data rate prior to a currently set reverse activity bit, when the measured ROTm fails to exceed the reference value (ROTm_th) and a decrement rate of the variation rate of the ROTm downwardly exceeds a previously set downward reference value (ROT_Down) (para. 0071-0073, 0119-0129).

Regarding **claim 12** Kim et al teaches shortening the predetermined slot length as the ROTm gets lower; and increasing the predetermined slot length as the ROTm gets closer to the reference value (ROTm_th) (para. 0071-0073, 0119-0129).

Regarding **claim 13** Kim et al teaches calculating the predetermined slot length based on following equation: predetermined slot length=a/ROT(ROTm_th[dB]-

ROT_Measured[dB]), where the ROT_measured is a measured ROT value (ROTm), and `a` is a proportional constant related to the predetermined slot length (para. 0071-0073, 0119-0129).

Regarding **claim 14** Kim et al teaches wherein the mobile communication system is a 1xEV-DO system (para. 0071-0073, 0119-0129).

Regarding **claim 15** Kim et al teaches a base station system having a function of setting reverse activity bit (RAB) to control a load amount in a reverse link, comprising: a ROTm measurement unit measuring a ROTm indicating a load degree of the reverse link (para. 0071-0073, 0119-0129); a RAB set time calculation unit dividing the ROTm into at least two states of the ROTm to set up a RAB set time separately according to the states of the ROTm (para. 0071-0073, 0119-0129); a first comparison unit comparing the ROTm to a reference value (ROTm_th) (para. 0071-0073, 0119-0129); and a RAB generation unit generating a RAB to lower data rate, when the ROTm is greater than the reference value (ROTm_th) according to a comparison result of the first comparison unit (para. 0071-0073, 0119-0129), the RAB generation unit generating the RAB to lower the data rate for the RAB set time when the RAB set time calculated in the RAB set time calculation unit is greater than a first threshold, and maintaining the RAB to raise the data rate, when the ROTm is smaller than the reference value (ROTm_th) (para. 0071-0073, 0119-0129).

Regarding **claim 16** Kim et al teaches wherein the RAB set time calculation unit calculates the RAB set time based on the states of the ROTm and a transition degree of the states of the ROTm (para. 0071-0073, 0119-0129).

Regarding **claim 17** Kim et al teaches a ROTc calculation unit calculating a ROTc based on the load degree of the reverse link; and a second comparison unit comparing the calculated ROTc to a specific threshold (ROTc_th), wherein the RAB generation unit sets the RAB based on the ROTm and the ROTc (para. 0071-0073, 0119-0129).

Regarding **claim 18** Kim et al teaches wherein after setting up the RAB set time corresponding to the state of the ROTm and the RAB set time corresponding to the transition degree of the state of the ROTm, the RAB set time calculation unit calculates the RAB set time, when the state of the ROTm is changed, based on following equation: RAB set time=RABSetTimeBystate+RABSetTimeByStateTrans, where RABSetTimeBystate is the RAB set time corresponding to the state of the ROTm, and RABSetTimeByStateTrans is the RAB set time corresponding to the transition degree of the state of the ROTm (para. 0071-0073, 0119-0129).

Regarding **claim 19** Kim et al teaches wherein the RAB set time is updated when a state transition of the ROTm takes place (para. 0071-0073, 0119-0129).

Regarding **claim 20** Kim et al teaches wherein the RAB generation unit sets the RAB to lower the data rate regardless of the ROTc, when the RAB set time is greater than the first threshold, wherein the RAB generation unit compares the ROTc to ROTc_th as a threshold of the load degree of the reverse link when the RAB set time is equal to the first threshold and then sets the RAB to lower the data rate when the ROTc is greater than the ROTc_th, and wherein the RAB generation unit sets the RAB to raise

the data rate when the ROTc is smaller greater than the ROTc_th (para. 0071-0073, 0119-0129).

Regarding **claim 21** Kim et al teaches wherein the RAB set time is decreased when the RAB is set to lower the data rate when the RAB set time is greater than the first threshold (para. 0071-0073, 0119-0129).

Regarding **claim 22** Kim et al teaches wherein the mobile communication system is a 1xEV-DO system (para. 0071-0073, 0119-0129).

Regarding **claim 23** Kim et al teaches in a mobile communication system, a base station system having a function of setting reverse activity bit (RAB) to control a load amount in a reverse link, comprising: a ROT measurement unit measuring ROTm as a value of indicating a load degree of the reverse link; a ROT variation rate calculation unit calculating a variation rate of the ROTm (para. 0071-0073, 0119-0129); a first comparison unit comparing the ROTm measured in the ROT measurement unit to a reference value (ROTm_th) previously set to a level lower than a maximum ROT a base station can receive (para. 0071-0073, 0119-0129); a second comparison unit comparing an increment rate of the variation rate of the ROT calculated from the ROT variation rate calculation unit to a previously set upward reference value (ROT_Up) (para. 0071-0073, 0119-0129); and a third comparison unit comparing a decrement rate of the variation rate of the ROT calculated from the ROT variation rate calculation unit to a previously set downward reference value (ROT_Down) (para. 0071-0073, 0119-0129).

Regarding **claim 24** Kim et al teaches a RAB generation unit generating RAB to lower transmission data rate to terminals in a cell or sector when the ROTm exceeds

the reference value (ROTm_th), the RAB generation unit generating the RAB to lower data rate for a predetermined slot length when the ROTm fails to exceed the reference value and the increment rate of the variation rate of the ROT calculated from the ROT variation rate calculation unit exceeds the ROT_Up, the RAB generation unit generating the RAB to raise the data rate when the ROTm fails to exceed the reference value and the increment rate of the variation rate of the ROT calculated from the ROT variation rate calculation unit fails to exceed the ROT_Up (para. 0071-0073, 0119-0129).

Regarding **claim 25** Kim et al teaches wherein the RAB lowers the data rate, which is generated when the ROTm exceeds the reference value (ROTm_th), is maintained each slot until the ROTm goes below the reference value (ROTm_th) (para. 0071-0073, 0119-0129).

Regarding **claim 26** Kim et al teaches wherein when the measured ROT fails to exceed the reference value (ROTm_th) and the decrement rate of the variation rate of the ROT downwardly exceeds a previously set downward reference value (ROT_Down), the RAB is generated to raise the data rate prior to a currently set RAB (para. 0071-0073, 0119-0129).

Regarding **claim 27** Kim et al teaches wherein the predetermined slot length is set shorter as the ROTm gets lower (para. 0071-0073, 0119-0129).

Regarding **claim 28** Kim et al teaches wherein the predetermined slot length is set longer as the ROTm gets closer to the reference value (ROTm_th) (para. 0071-0073, 0119-0129).

Regarding **claim 29** Kim et al teaches wherein the predetermined slot length is calculated based on following equation: slot length=a/ROT(ROTm_th[dB]-ROT_Measured[dB]), where Slot_Length is the predetermined slot length, the ROT_measured is a measured ROT value (ROTm), and `a` is a proportional constant related to slot length (para. 0071-0073, 0119-0129).

Regarding **claim 30** Kim et al teacheswherein the mobile communication system is a 1xEV-DO system (para. 0071-0073, 0119-0129).

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Khawar Iqbal whose telephone number is (571) 272-7909.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Marsha D. Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Marsha D Banks-Harold

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